IN THE CLAIMS:

1. (currently amended) A system for recovering primary channel operation in a facsimile receiver, comprising:

a signal receiver that receives a signal containing first and second points located at first and second angles; and

angle determination circuitry that determines one of said first and second angles is an offset angle by which said signal has been rotated ~~based on said first and second angles~~.

2. (original) The system as recited in Claim 1 wherein about 90° separate said first and second angles.

3. (original) The system as recited in Claim 1 wherein said signal conforms to International Telecommunications Union Recommendation V.34.

4. (original) The system as recited in Claim 1 wherein said angle determination circuitry causes said offset angle to equal said first angle when at least 180° separate said first and second angles.

5. (original) The system as recited in Claim 1 wherein said angle determination circuitry causes said offset angle to equal said second angle when fewer than 180° separate said first and second angles.

6. (original) The system as recited in Claim 1 wherein said signal is an S signal.

7. (original) The system as recited in Claim 1 wherein said angle determination circuitry refines said offset angle based on a subsequent signal.

8. (currently amended) A method of recovering primary channel operation in a facsimile receiver, comprising:

examining first and second angles of first and second points of a signal; and

determining one of said first and second angles is an offset angle by which said signal has been rotated ~~based on said first and second angles~~.

9. (original) The method as recited in Claim 8 wherein about 90° separate said first and second angles.

10. (original) The method as recited in Claim 8 wherein said signal conforms to International Telecommunications Union Recommendation V.34.

11. (original) The method as recited in Claim 8 wherein said determining comprises causing said offset angle to equal said first angle when at least 180° separate said first and second angles.

12. (original) The method as recited in Claim 8 wherein said determining comprises causing said offset angle to equal said second angle when fewer than 180° separate said first and second angles.

13. (original) The method as recited in Claim 8 wherein said signal is an S signal.

14. (original) The method as recited in Claim 8 further comprising refining said offset angle based on a subsequent signal.

15. (currently amended) A facsimile machine, comprising:

image formation circuitry;

telecommunications circuitry, including a facsimile receiver, coupled to said image formation circuitry; and

a system, associated with said facsimile receiver, for recovering primary channel operation, including:

a signal receiver that receives a signal containing first and second points located at first and second angles, and

angle determination circuitry that determines one of said first and second angles is an offset angle by which said signal has been rotated ~~based on said first and second angles~~.

16. (original) The facsimile machine as recited in Claim 15 wherein about 90° separate said first and second angles.

17. (original) The facsimile machine as recited in Claim 15 wherein said signal conforms to International Telecommunications Union Recommendation V.34.

18. (original) The facsimile machine as recited in Claim 15 wherein said angle determination circuitry causes said offset angle to equal said first angle when at least 180° separate said first and second angles.

19. (original) The facsimile machine as recited in Claim 15 wherein said angle determination circuitry causes said offset angle to equal said second angle when fewer than 180° separate said first and second angles.

20. (original) The facsimile machine as recited in Claim 15 wherein said signal is an S signal.

21. (original) The facsimile machine as recited in Claim 15 wherein said angle determination circuitry refines said offset angle based on a subsequent signal.

22. (currently amended) An apparatus that determines the difference between a received constellation of signals and an expected constellation of signals, comprising:

a signal receiver that receives a constellation of signals containing first and second points located at first and second angles, respectively; and

angle determination circuitry that determines one of said first and second angles is an offset angle by which the first and second points have been rotated from an expected constellation of signals~~, wherein the angle determination circuitry determines the offset angle based upon the first and second angles~~.

23. (original) The apparatus as recited in Claim 22 wherein about 90° separate said first and second angles.

24. (original) The apparatus as recited in Claim 22 wherein said signal conforms to International Telecommunications Union Recommendation V.34.

25. (original) The apparatus as recited in Claim 22 wherein said angle determination circuitry causes said offset angle to equal said first angle when at least 180° separate said first and second angles.

26. (original) The apparatus as recited in Claim 22 wherein said angle determination circuitry causes said offset angle to equal said second angle when fewer than 180° separate said first and second angles.

27. (original) The apparatus as recited in Claim 22 wherein said signal is an S signal.

28. (original) The apparatus as recited in Claim 22 wherein said angle determination circuitry refines said offset angle based on a subsequent signal.

29. (original) The apparatus as recited in Claim 22 wherein the angle determination circuitry updates an equalizer in the signal receiver as a function of the determined offset angle.

30. (original) The apparatus as recited in Claim 22 wherein the angle determination circuitry updates an equalizer applied to incoming data signals based upon the offset angle between the incoming data signals and a set of training signals.